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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/074,706	02/13/2002	Paul Mertens	98,475-B1	8134
20306	7590	02/25/2004	EXAMINER	
MCDONNELL BOEHNEN HULBERT & BERGHOFF			AHMED, SHAMIM	
300 SOUTH WACKER DRIVE			ART UNIT	
SUITE 3200			PAPER NUMBER	
CHICAGO, IL 60606			1765	

DATE MAILED: 02/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/074,706

Applicant(s)

MERTENS ET AL.

Examiner

Shamim Ahmed

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 22-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 22-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed 12/05/04 have been fully considered but they are not persuasive. Applicants argue that Kunze-Concewitz does not teach the newly added limitation of "said gaseous substance being at least partially miscible with said liquid and when mixed with said liquid yielding a mixture having a surface tension lower than that of the liquid thereby inhibiting the liquid from contacting said second part".

In response, examiner states that the argument is not persuasive because the newly added limitation does not further limit the invention such as the apparatus.

Examiner also states that Kunze-Concewitz disclose an apparatus including two different supply system for supplying liquid and gaseous substance in different location of a substrate (see the rejection below).

Therefore, Kunze-Concewitz's apparatus is capable of supplying liquid and gaseous substance and when liquid mixed with the gaseous substance yielding a mixture having a surface tension lower than that of the liquid, which is supported by Leeners et al (5,271,774) (see abstract and col.3, lines 37-43) and thereby the mixture will inherently create a sharp boundary of liquid-vapor, which will inhibit the liquid to pass through.

Accordingly, the rejection of the previous office action dated July 31,2003 is repeated herein as below.

***Claim Rejections - 35 USC § 102***

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 22-27 rejected under 35 U.S.C. 102(e) as being anticipated by Kunze-Concewitz (5,964,952).

Kunze-Concewitz discloses a method and an apparatus for cleaning a circular silicon wafer, wherein the device includes a substrate holding means, wherein the substrate is rotating about a center axis (col.6, lines 4-7).

Kunze-Concewitz also discloses a first supply system to supply liquid on a first part and a second supply system to supply gaseous substance to a second part and the second part is adjacent to the first part (col.2, lines 8-20, col.6, lines 46-61, figure 12).

As to claim 24, Kunze-Concewitz teaches that the nozzles are capable to supply on the annular edge area of the substrate because the supply nozzles is movable (see figure 13).

As to claim 27, Kunze-Concewitz teaches that the device is further comprises to direct a stream on to the second side of the substrate (col.5, lines 2-14).

As to the newly added limitation, examiner states that the limitation does not further limit the apparatus.

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Since, Kunze-Concewitz discloses an apparatus including two different supply systems for supplying liquid and gaseous substance in different location of a substrate.

Therefore, Kunze-Concewitz's apparatus is capable of supplying any liquid and gaseous substance, which is certainly an intended use of the apparatus and it meets the claim. See, also *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 28-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunze-Concewitz (5,964,952) as applied to claims 22-27 above, and further in view of Crowe (5,749,413).

Kunze-Concewitz discussed above in the paragraph 2 but does not disclose that the first and the second supply system include annular channels and comprising a sealing device between the substrate and the outer wall of the second annular channel.

However, in a method of processing semiconductor devices by supplying fluids, Crowe teaches that sealing mechanism is introduced between the annular channel and the substrate holder for preventing leakage of the fluid medium (col.3, lines 40-47).

Therefore, it would have been obvious to one skilled in the art at the time of claimed invention to combine Crowe's teaching into Kunze-Concewitz's apparatus for preventing the loss of supplied fluid as taught by Crowe.

### ***Double Patenting***

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

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Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claim 22 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 10 of U.S. Patent No. 6,334,902. Although the conflicting claims are not identical, they are not patentably distinct from each other because the only difference between the patent 6,334,902 and the instant application is that the patent '902 does not explicitly disclose a second supply system to supply gaseous substance but it would have been obvious that the heat source will create a gaseous substance.

As to the newly added limitation, which is strictly an intended use of an apparatus and Kunze-Concewitz's apparatus meets the claim as discussed above in paragraph 2.

### ***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will

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the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shamim Ahmed whose telephone number is (571) 272-1457. The examiner can normally be reached on M-Thu (7:00-5:30) Every Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine G Norton can be reached on (571) 272-1465. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shamim Ahmed  
Examiner  
Art Unit 1765

SA  
February 9, 2004

NADINE G. NORTON  
SUPERVISORY PATENT EXAMINER  
